

### ABSTRACT

A bonding apparatus comprising a cleaning chamber; cleaning means for irradiating energy waves to bonding surfaces in the cleaning chamber under a reduced pressure condition; bonding means for bonding metal bonding portions of objects to be bonded in an atmospheric air which have been taken out from the cleaning chamber; and carrying means for, with respect to at least one member of the objects to be bonded, carrying a foregoing object and an ensuing object substantially simultaneously in at least the carrying-in direction to the cleaning chamber and the carrying-out direction from the cleaning chamber. At the time of taking out the objects after cleaning into an atmospheric air and bonding them to each other, the carrying in, carrying out and delivery of objects to be bonded especially around the cleaning chamber can be performed smoothly within a short period of time, and mass production of desired bonded products can be realized at high throughput. As a result, it becomes possible to shorten the tact time through the entire bonding process and to reduce the cost required for the bonding process.